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PROCEEDINGS

OF THE

ACADEMY OF NATURAL SCIENCES

OF

PHILADELPHIA.

1882.

JANUARY 3, 1882.

The President, Dr. JOS. LEIDY, in the chair.

Twenty-six persons present.

Fruiting of Ginko biloba.—Mr. THOMAS MEEHAN referred to some specimens of this plant (*Salisburia adiantifolia* of Smith and other authors subsequent to Linnæus) which had been borne by a tree on the grounds of Mr. Chas. J. Wister, of Germantown. The tree was far removed from any other flowering tree, which afforded good grounds for the belief that this specimen was hermaphrodite. In botanical classification the genus was accepted as of diœcious character. Sexual characters were, however, among the most unreliable. There would be nothing improbable in a tree bearing wholly male or wholly female flowers as a general rule, changing so far as to have both on one tree. Cases of this kind were not uncommon in *Acer dasycarpum*, and other deciduous trees, and, he believed, probable in the red cedar, *Juniperus virginiana*, an ally of the *Ginko*. In this cedar there were often trees met with which were wholly male in most seasons, but on which occasional berries might be seen; while other trees, usually so abundantly fertile as to be almost covered with blue berries, would occasionally have many more male flowers than usual. In Rubiaceous plants, where dimorphic flowers were so common—the short-styled ones and the short-stamened ones being on distinct plants, and practically diœcious—there were cases of change at times. The white-berried *Mitchella repens* which were growing on his grounds, apart from the red-berried variety, had not produced a berry until last year, when a few were produced; and the short-styled *Bouvardia*, so common in greenhouses, and with short styles, had produced a branch on one plant under his observation the past winter, which had the styles projecting beyond the corolla. In annual plants the variation in sexual characters was well known to vary, even with external conditions. *Ambrosia artemisiæfolia*, the common rag-weed, produces mostly male flowers in poor soil, or when growing thickly together in wheat fields after the grain is cut; but when growing in the richer soil of potato or Indian-corn fields, the increase of female flowers is very marked. Sometimes plants under these conditions are found wholly female. Indian-corn also varies through some innate law. Male flowers are not uncommon on the spikes which bear the grain, while grain among the males, or "tassels," showed the occasional presence of female flowers there. It is more than likely that complete diœcism, claimed for some Asiatic coniferæ, does not really exist.

Prof. Angelo Heilprin remarked that fruit had been found on this tree recently in the Central Park, New York; and that bees might carry the pollen long distances, and fertilize female flowers. It did not follow that the presence of fruit on isolated trees involved monœcism.

Mr. Redfield observed that pollen from the large male tree, three-quarters of a century old, at the old Hamilton homestead, now Woodlands Cemetery, and but six miles away in a direct line, might be wafted by winds to Mr. Wister's tree in Germantown.

The President, Dr. Joseph Leidy, remarked that pollen from coniferous trees was known to be carried by winds to enormous distances.

Remarks on some Rock Specimens.—Prof. Leidy remarked in relation to the rock specimens presented by him this evening, that most of them he had collected last summer on South Mountain, ten miles from Wernersville, Berks Co., Pa. The ridge consists of azoic rocks, mainly compact gneiss, often obscurely stratified and regular or not folded or contorted. With this is associated granite with little or no mica, and black syenite mostly composed of hornblende with feldspar and quartz in fine grains. The rocks in two localities of the vicinity are traversed by dykes of basaltic trap. Potsdam sandstone flanks the mountain on the eastern side, and this at the base is overlaid by the lower Silurian limestone of the Lebanon Valley. The specimens collected from exposures of the Potsdam sandstone consist of quartzite, remarkable for their sharply defined character, resembling in a manner cleavage fragments of orthoclase. The form is due to jointing, which is rhomboidal, usually in two directions crossing the planes of stratification, but also frequently parallel with the latter. Occasionally the jointing resents other